

# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

## Causmex Corporation

Whereas, THERE HAS BEEN PRESENTED TO THE  
Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *eighteen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

WHEAT

'A99ar'

In Testimony Whereof, I have hereunto set  
my hand and caused the seal of the Plant  
Variety Protection Office to be affixed  
at the City of Washington, D.C.  
this 30th day of December in  
the year of our Lord one thousand nine  
hundred and eighty-two

*John R. Block*

Secretary of Agriculture

Attest:

*Kenneth A. Egan*  
Acting  
Commissioner  
Plant Variety Protection Office  
Grain Division  
Agricultural Marketing Service



UNITED STATES DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
LIVESTOCK, POULTRY, GRAIN & SEED DIVISION

FORM APPROVED  
OMB NO. 40-R3822

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: See Reverse.

No certificate for plant variety protection may be issued unless a completed application form has been received (5 U.S.C. 553).

1a. TEMPORARY DESIGNATION OF VARIETY A99ar		1b. VARIETY NAME A99ar		FOR OFFICIAL USE ONLY PV NUMBER 8200159	
2. KIND NAME Wheat common		3. GENUS AND SPECIES NAME Triticum aestivum 20 9/1/82		FILING DATE 8/24/82	TIME 12:30 A.M.
4. FAMILY NAME (BOTANICAL) Graminea		5. DATE OF DETERMINATION A99ar Sept. 1980		FEE RECEIVED \$ 500.00 \$ 250.00	DATE 8/24/82 11/15/82
6. NAME OF APPLICANT(S) Causmex Corp.		7. ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) 425 Myrtle, El Paso, Tex. 79901		8. TELEPHONE AREA CODE AND NUMBER (612) 275-2870 20 9/1/82	
9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: (Corporation, partnership, association, etc.) Canadian, American, Mexican Corp.		10. IF INCORPORATED, GIVE STATE AND DATE OF INCORPORATION Tex. Jan. 1982		11. DATE OF INCORPORATION Jan. 1982	
12. NAME AND MAILING ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS: Kermit L. Greenley, 710 Willis St., Dassell, MN 55325					

13. CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:

- ☒ 13A. Exhibit A, Origin and Breeding History of the Variety (See Section 52 of the Plant Variety Protection Act.)
- ☒ 13B. Exhibit B, Novelty Statement.
- ☒ 13C. Exhibit C, Objective Description of the Variety (Request form from Plant Variety Protection Office.)
- ☒ 13D. Exhibit D, Additional Description of the Variety.

14a. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See Section 83(a). (If "Yes," answer 14B and 14C below.) ☒ YES ☒ NO

14b. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? ☒ YES ☐ NO

14c. IF "YES," TO 14B, HOW MANY GENERATIONS OF PRODUCTION BEYOND BREEDER SEED? ☒ FOUNDATION ☐ REGISTERED ☒ CERTIFIED

15a. DID THE APPLICANT(S) FILE FOR PROTECTION OF THIS VARIETY IN OTHER COUNTRIES? ☐ YES ☒ NO (If "Yes," give name of countries and dates.)

15b. HAVE RIGHTS BEEN GRANTED THIS VARIETY IN OTHER COUNTRIES? ☐ YES ☒ NO (If "Yes," give name of countries and dates.)

16. DOES THE APPLICANT(S) AGREE TO THE PUBLICATION OF HIS/HER (THEIR) NAME(S) AND ADDRESS IN THE OFFICIAL JOURNAL? ☒ YES ☐ NO

17. The applicant(s) declare(s) that a viable sample of basic seed of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

February 10, 1982  
(DATE)

Causmex Corp.  
(SIGNATURE OF APPLICANT)

(DATE)

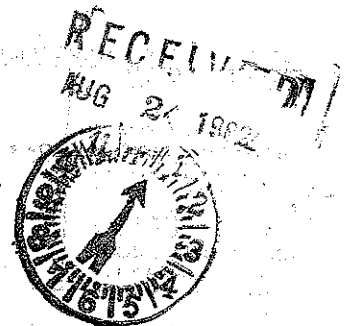
Kermit L. Greenley  
(SIGNATURE OF APPLICANT)

## INSTRUCTIONS

**GENERAL:** Send an original copy of the application and exhibits, at least 2,500 viable seeds, and \$500 fee (\$250 filing fee and \$250 examination fee) to U.S. Dept. of Agriculture, Agricultural Marketing Service, Livestock, Poultry, Grain and Seed Division, Plant Variety Protection Office, National Agricultural Library Building, Beltsville, Maryland 20705. (See section 180.175 of the Regulations and Rules of Practice.) Retain one copy for your files. All items on the face of the form are self-explanatory unless noted below.

### ITEM

5. Give the date the applicant determined that he had a new variety based on (1) the definition in section 41(a) of the Act and (2) the date a decision was made to increase the seed.
- 13a. Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method; (2) the details of subsequent stages of selection and multiplication; (3) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified and (4) evidence of uniformity and stability.
- 13b. Give a summary statement of the variety's novelty. Clearly state how this novel variety may be distinguished from all other varieties in the same crop. If the new variety most closely resembles one or a group of related varieties: (1) identify these varieties and state all differences objectively; (2) attach statistical data for characters expressed numerically and demonstrate that these differences are significant; and (3) submit, if helpful, seed and plant specimens or photographs of seed and plant comparisons clearly indicating novelty.
- 13c. Fill in the Exhibit C, Objective Description form, for all characteristics for which you have adequate data.
- 13d. Describe any additional characteristics that are not described, or whose description cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the description of characteristics that are difficult to describe, such as, plant habit, plant color, disease resistance, etc.
- 14a. If "YES" is specified (seed of this variety be sold by variety name only as a class of certified seed) the applicant may NOT reverse his affirmative decision after the variety has either been sold and so labeled, his decision published, or the certificate has been issued. However, if the applicant specified "NO," he may change his choice. (See section 180.16 of the Regulations and Rules of Practice.)
- 15a. See section 42 of the Plant Variety Protection Act and section 180.7 of the Regulations and Rules of Practice.



## Exhibit 13A

## A99ar Breeding History and Characteristics:

The original cross of this development was made in Saskatchewan in 1968. The parentage was a hard, red spring composite of Canadian and United States lines, and a Mexican release experimental line. The F<sub>1</sub><sup>1</sup> was grown out in the winter of 68-69 in Arizona. F<sub>2</sub><sup>head 9/03/82</sup> selections were made in the summer of 69 in Saskatchewan with definite segregation selections of normal beardless, semi dwarf beardless, normal bearded and semi dwarf bearded. F<sub>4</sub> segregations were grown in Saskatchewan in the summer of 71 with specific classifications of the four prominent segregations. The F<sub>5</sub><sup>head 9/03/82</sup> lines were grown in Yuma the winter of 71-72 and phenotypically similar lines were bulked. Subsequent testing in replicated plots in the Northwest isolated two lines known as CMB and CMS.

CMS showed substantial advantage in yield and grain quality. This selection was then designated A99 and was increased substantially for larger scale farm tests.

However, in 1976 there were indications that under adverse conditions, ergot infections were apparent. Reselections were immediately started and increased along with yield trials. The reselection of A99ar shows slightly improved yield, no apparent susceptibility to ergot and somewhat less lodging factor.

1 eventually released as 'Zaragoza' 9/03/82

The selection is consistently stable and very uniform in growth habits, height, and plant type. There are no variants except as cited in Exhibit D.

9/03/82

A99ar does not have a very close counterpart in the Hard Red Spring Wheat class. <sup>In comparisons A99ar is most similar to Eller and Waldron. 25 9/03/82</sup> By comparison, it has a heavy strong straw like Eller and Waldron, but does not show the purple stem coloring characteristics of these two public varieties. A99ar is 5-7 cm. taller than these varieties and approximately 6-7 days later in maturity. A99ar is novel in that the head is considerable more lax than other beardless H.R.S. wheat varieties.

The seed of A99ar is a deep, rich, red brown under the normal growing conditions, however, seed color will be lighter colored when grown under the more southern areas of adaptable regions. In comparison with other public H.R.S. wheat varieties, A99ar seed is somewhat longer, with a more oval shape somewhat remindful of the general shape of winter wheat. The suture is inconsistent, varying from open and angular to rounded and narrow. A very small fraction of a percentage of the kernels will have a shriveled structure of the suture. The variables of the suture is not consistent with the very acceptable uniformity of the phenotype.

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
LIVESTOCK, POULTRY, GRAIN & SEED DIVISION  
BELTSVILLE, MARYLAND 20705

EXHIBIT C  
(Wheat)

## OBJECTIVE DESCRIPTION OF VARIETY

WHEAT (TRITICUM SPP.)

INSTRUCTIONS: See Reverse.

NAME OF APPLICANT(S) CAUSMEX CORPORATION, Kermit L. Greenley	FOR OFFICIAL USE ONLY
ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) 710 Willis St. Dassel, MN 55325	PVPO NUMBER 8200159 VARIETY NAME OR TEMPORARY DESIGNATION A99ar

Place the appropriate number that describes the varietal character of this variety in the boxes below.  
Place a zero in first box (e.g.  or ) when number is either 99 or less or 9 or less.

## 1. KIND:

☒ 1 = COMMON    2 = DURUM    3 = EMMER    4 = SPELT    5 = POLISH    6 = POULARD    7 = CLUB

## 2. TYPE:

1 = SPRING    2 = WINTER    3 = OTHER (Specify) \_\_\_\_\_  1 = SOFT    2 = HARD    3 = OTHER (Specify) \_\_\_\_\_

1 = WHITE    2 = RED    3 = OTHER (Specify) \_\_\_\_\_

## 3. SEASON - NUMBER OF DAYS FROM EMERGENCE TO:

FIRST FLOWERING     LAST FLOWERING

## 4. MATURITY (50% Flowering):

NO. OF DAYS EARLIER THAN .....  1 = ARTHUR    2 = SCOUT    3 = CHRIS  
 NO. OF DAYS LATER THAN .....  4 = LEMHI    5 = NUGAINES    6 = LEEDS

## 5. PLANT HEIGHT (From soil level to top of head):

CM. HIGH     CM. TALLER THAN .....  1 = ARTHUR    2 = SCOUT    3 = CHRIS  
 CM. SHORTER THAN .....  4 = LEMHI    5 = NUGAINES    6 = LEEDS

## 6. PLANT COLOR AT BOOTING (See reverse):

1 = YELLOW GREEN    2 = GREEN    3 = BLUE GREEN

## 7. ANTHUR COLOR:

1 = YELLOW    2 = PURPLE

## 8. STEM:

Anthocyanin: 1 = ABSENT    2 = PRESENT     Waxy bloom: 1 = ABSENT    2 = PRESENT  
 Hairiness of last internode of rachis: 1 = ABSENT    2 = PRESENT     Internodes: 1 = HOLLOW    2 = SOLID  
 NO. OF NODES (Originating from node above ground)     CM. INTERNODE LENGTH BETWEEN FLAG LEAF AND LEAF BELOW

## 9. AURICLES:

Anthocyanin: 1 = ABSENT    2 = PRESENT     Hairiness: 1 = ABSENT    2 = PRESENT

## 10. LEAF:

Flag leaf at booting stage: 1 = ERECT    2 = RECURVED    3 = OTHER (Specify) \_\_\_\_\_  Flag leaf: 1 = NOT TWISTED    2 = TWISTED  
 Hairs of first leaf sheath: 1 = ABSENT    2 = PRESENT     Waxy bloom of flag leaf sheath: 1 = ABSENT    2 = PRESENT  
 MM. LEAF WIDTH (First leaf below flag leaf)     CM. LEAF LENGTH (First leaf below flag leaf):

## 11. HEAD:

Density: 1 = LAX 2 = DENSE

Shape: 1 = TAPERING 2 = STRAP 3 = CLAVATE  
4 = OTHER (Specify)

Awnedness: 1 = AWNLESS 2 = APICALLY AWNLETED 3 = AWNLETED 4 = AWNED

Color at maturity: 1 = WHITE 2 = YELLOW 3 = PINK 4 = RED  
5 = BROWN 6 = BLACK 7 = OTHER (Specify)

CM. LENGTH

MM. WIDTH

## 12. GLUMES AT MATURITY:

Length: 1 = SHORT (CA. 7 mm.) 2 = MEDIUM (CA. 8 mm.)  
3 = LONG (CA. 9 mm.)Width: 1 = NARROW (CA. 3 mm.) 2 = MEDIUM (CA. 3.5 mm.)  
3 = WIDE (CA. 4 mm.)Shoulder shape: 1 = WANTING 2 = OBLIQUE 3 = ROUNDED  
4 = SQUARE 5 = ELEVATED 6 = APICULATE

Beak: 1 = OBTUSE 2 = ACUTE 3 = ACUMINATE

## 13. COLEOPTILE COLOR:

1 = WHITE 2 = RED 3 = PURPLE

## 14. SEEDLING ANTHOCYANIN:

1 = ABSENT 2 = PRESENT

## 15. JUVENILE PLANT GROWTH HABIT:

1 = PROSTRATE 2 = SEMI-ERECT 3 = ERECT

## 16. SEED:

Shape: 1 = OVATE 2 = OVAL 3 = ELLIPTICAL

Cheek: 1 = ROUNDED 2 = ANGULAR

Brush: 1 = SHORT 2 = MEDIUM 3 = LONG

Brush: 1 = NOT COLLARED 2 = COLLARED

Phenol reaction (See instructions): 1 = IVORY 2 = FAWN 3 = LT. BROWN  
4 = BROWN 5 = BLACK

Color: 1 = WHITE 2 = AMBER 3 = RED 4 = PURPLE 5 = OTHER (Specify)

MM. LENGTH

MM. WIDTH

GM. PER 1000 SEEDS

## 17. SEED CREASE:

Width: 1 = 60% OR LESS OF KERNEL 'WINOKA'  
2 = 80% OR LESS OF KERNEL 'CHRIS'  
3 = NEARLY AS WIDE AS KERNEL 'LEMHI'Depth: 1 = 20% OR LESS OF KERNEL 'SCOUT'  
2 = 35% OR LESS OF KERNEL 'CHRIS'  
3 = 50% OR LESS OF KERNEL 'LEMHI'

## 18. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

STEM RUST  
(Races)LEAF RUST  
(Races)STRIPE RUST  
(Races)

LOOSE SMUT

POWDERY MILDEW

BUNT

OTHER (Specify)

## 19. INSECT: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

SAWFLY

APHID (Bydv.)

GREEN BUG

CEREAL LEAF BEETLE

OTHER (Specify)

HESSIAN FLY

RACES:

GP

A

B

C

D

E

F

G

## 20. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant tillering	Eller	Seed size	none
Leaf size	Eller	Seed shape	none
Leaf color	Eller	Coleoptile elongation	Eller
Leaf carriage	none	Seedling pigmentation	Eller

## INSTRUCTIONS

GENERAL: The following publications may be used as a reference aid for the standardization of terms and procedures for completing this form:

- (a) L.W. Briggie and L. P. Reitz, 1963, Classification of Triticum Species and Wheat Varieties Grown in the United States, Technical Bulletin 1278, United States Department of Agriculture.
- (b) W.E. Walls, 1965, A Standardized Phenol Method for Testing Wheat Seeds for Varietal Purity, contribution No. 28 to the handbook of seed testing prepared by the Association of Official Seed Analysts. (See attachment.)

LEAF COLOR: Nickerson's or any recognized color fan should be used to determine the leaf color of the described variety.

8200159

Exhibit 13D

A99ar is a normal plant of approximately 1 meter in height. The growing plant is a dark blue green with a rather coarse heavy stem. The heads are beardless, but with a slight very short beard on the tip floret. The heads are long with more than average space between florets. The florets average between 15 and 20 per head. The glumes are elongated with minute beards.

The maturity would average 6-8 days later than Chris. The seed is dark, very large, with a wide angular suture. Protein levels average well above that of Era and slightly above that of Olof and Chris.

A distinguishing characteristic is an occasional (.001%) short bearded small headed plant appearing in the seed fields.



8200159

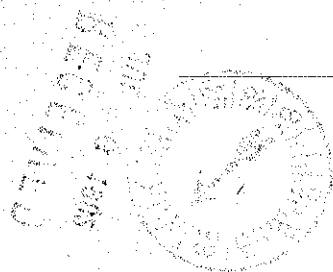
Adaptation:

A99ar is adapted to the Hard Red Spring Wheat areas of the prairie provinces of Canada and the United States, Montana, North Dakota, South Dakota, Minnesota, Wisconsin, and limited areas of Nebraska, Kansas and Colorado.

Breeder Seed will be maintained by Causmex Corporation, under the supervision of the originating breeder staff.

Breeder Seed will be maintained through bulking head selections from individually maintained lines.

Breeder Seed will be used as the source of the foundation seed.



# COMPARATIVE PROTIEEN VALUES OF A99ar-1981 TESTS

Tests made by Commercial elevator operator-standard procedure

## A99ar-Seed Increase Fields

Grower: Ken Wetzel	#1	15.1%
	#2	14.1%
	#3	13.7%
	#4	14.0%

Grower: Barnth Bros.	#1	15.4%
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Area average	14.5
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## Era Variety

Farmer:	Paul Gregor	11.3%
	Gene Gerhke	11.7%
	Pat Sheehy	12.0%
	Steve Wesley	11.6%
	Leon Pittman	11.8%

Area average	11.7
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## Prodac Variety

Farmer: Jerry Miller	13.1%
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All tests were made by a commercial grain buyer and are representative of the protien levels for that area (Southern Minnesota) for the indicated varieties. All varieties grown on standard farm conditions.

Verified by:

Marion Reinhardt